

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY


(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

REC'D 07 SEP 2005

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Applicant's or agent's file reference P/2BA22/BM/13	FOR FURTHER ACTION		See Form PCT/PEA/416
International application No. PCT/EP2004/005126	International filing date (day/month/year) 12.05.2004	Priority date (day/month/year) 06.06.2003	
International Patent Classification (IPC) or national classification and IPC C08F10/00, C08F2/34, C08F2/01, B01J8/08, B01J8/24			
Applicant WEICKERT, Gunter			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the opinion</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input checked="" type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 28.09.2004		Date of completion of this report 07.09.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016		Authorized Officer Kaumann, E Telephone No. +31 70 340-	



**INTERNATIONAL PRELIMINARY REPORT
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PCT/EP2004/005126

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-12 as originally filed

Claims, Numbers

1-19 as originally filed

Drawings, Sheets

1/3-3/3 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1-19
Inventive step (IS)	Yes: Claims	
	No: Claims	1-19
Industrial applicability (IA)	Yes: Claims	1-19
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Re Item V:

Reference is made to the following documents:

D1 = WO 00/02929

D2 = WO 00/69552

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of **claims 1 - 19** is not new in the sense of Article 33(2) PCT.

Subject-matter of the present application is a process for the polymerization of oléfins in the gas phase in a fluidized bed and in a moving bed such that the residence time in the fluidized bed and in the moving bed are independently controlled. The moving bed is separated from the fluidized bed by a separation fluid which may be an inert gas, an evaporating liquid or the monomer/comonomer. A further subject-matter of the present application is a reactor for carrying out this process.

D1 discloses a gas phase polymerization process in two reaction zones. In the first zone the particles rise up caused by the fluidization and in the second zone the particles sink downwards following the force of gravity.

In the second zone (downcomer) of the reactor, another gas composition can be adjusted as in the first zone (riser).

The reactor is similar to the one of figure 5 of the present application.

D2 discloses a fluidized bed polymerization process using a reactor which is horizontally separated into different chambers.

On page 5, line 5 to page 9, line 32 it is disclosed that the recycle liquid can be introduced in such a way that different concentrations of the liquid are present in different parts of the reactor (page 5, lines 11 - 20, page 8, line 15 to page 9, line 13).

Thus, the composition of the two departments are independently controlled.

Therefore, it also appears possible to have different fluidization conditions.

The reactor is similar to the one shown in figure 4 of the present application.

Therefore, the subject-matter of present claims 1 - 19 lacks novelty regarding D1 and D2.

2. The present application does not meet the criteria of Article 33(1) PCT, because

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(SEPARATE SHEET)**

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the subject-matter of **claims 1 - 19** does not involve an inventive step in the sense of Article 33(3) PCT.

Since claims 1 - 19 are not novel, an inventive step can not be acknowledged, too.

3. Since the gas phase polymerization of olefins is an important technical process, industrial applicability can be acknowledged to the subject-matter of present **claims 1 - 19** in the sense of Article 33(4) PCT.

Re Item VII:

1. The literature reference US 5,698,624 on page 2, line 17 appears to be incorrect, since this document relates to a different technical field.
2. To meet the requirements of Rule 5.1.a) PCT, the documents D1 and D2 should be identified in the description and their relevant contents should be indicated. The applicant should ensure that it is clear from the description which features of the subject-matter of the independent claims are known from the prior art documents.